



DEPARTMENT OF THE AIR FORCE
OFFICE OF THE CHIEF OF STAFF
WASHINGTON, DC

AUG 30 1999

MEMORANDUM FOR USD(A&T)

FROM: HQ USAF/CV
1670 Air Force Pentagon
Washington, DC 20330-1670

SUBJECT: Implementing Cycle Time Reduction Recommendations

We have reviewed your memo on "Implementing Cycle Time Reduction Recommendations", dated 9 July 1999. We agree that reducing the time to develop and field new and modified systems is essential to making the acquisition systems faster and more responsive to the changing needs of the warfighter. This must include fielding current technology for our warfighters while lowering the cost of our weapons and minimizing the amount of program instability. We concur with the recommendations, however, the Air Force has taken additional steps that we feel will improve the successful outcome you seek. Attachment 1 contains specific comments associated with each of the actions outlined in your letter.

The Air Force, through the Lean Aerospace Initiative, has produced a significant amount of research that identifies what is driving development times for Air Force and DoD systems and supports a range of policy recommendations. The Air Force has an active program developing the necessary justification, tools, process, and infrastructure to make the lasting and meaningful changes required to shorten development times. Many of these efforts have influenced the OSD level efforts.

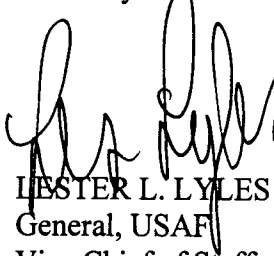
The Air Force action plan (Attachment 2) identifies additional steps that are not included in your memo. These include but are not limited to

- 1) A business case for cycle time reduction both on
 - a) An overall development system level and
 - b) A project-by-project basis (Attachment 3)
- 2) Effective incentives for both government personnel and contractors to reduce development time where appropriate and advantageous
- 3) Schedule-based information and tools to assist in the development of best value schedules and the evaluation of alternative proposed schedules.

We have identified specific steps that need to be taken in each of these areas. To date we have focused on building the necessary infrastructure to support the long lasting changes that will

support faster development times. We must also address the obvious and very real funding-based limitations that plague most of our development programs.

Achieving the objectives of significantly reduced acquisition response times will require significant changes in our acquisition community, the planning and programming community, our requirements community and our test and evaluation community. Achieving them on many of our programs will require significant cooperation and support from OSD, the Administration, and Congress. We would be happy to share our efforts with you and the other services at your convenience.

vr

LESTER L. LYLES
General, USAF
Vice Chief of Staff

Attachments:

1. Air Force Comments on "Implementing Cycle Time Reduction Recommendations"
2. Reducing Air Forcer Acquisition Response Time: Developing a Fast and Responsive Development System
3. Cost of Delay Analysis: Maximizing Value to the Air Force

AIR FORCE COMMENTS

ON

"IMPLEMENTING CYCLE TIME REDUCTION RECOMMENDATIONS"

Cost of Delay Analysis

Cost of Delay Analysis is a commercial method to determine the relative impact of cost, schedule, and performance tradeoffs on the value a company receives from a development project. The method is useful not only in the analysis of alternatives but also in the approval and development phases of projects assuring consistent decisions are made throughout a project with respect to cost, schedule, and performance tradeoffs.

The Air Force (SAF/AQXA) adapted the Cost of Delay Analysis with the assistance of Mr. Don Reinertsen and the financial assistance of USD(A&T)AT. Cost of Delay Analysis is being implemented in the Air Force on a limited basis today. A team of Air Force Reserve officers has demonstrated the application of the Cost of Delay Analysis to a broad array of AF development projects and are available to assist in its application to other projects. The Air Force has developed a training program and a guide for the implementation of the Cost of Delay Analysis method. Training has been provided to Hanscom AFB, Wright Patterson AFB, DSMC, PEO/SYSCOM Conference, and the Pentagon. The Acquisition Support Teams at each of our acquisition and logistics centers have been trained on the application of Cost of Delay and are available to assist in its application to programs. Additional information on Cost of Delay Analysis is attached (Attachment 3).

Evolutionary Acquisition

The Air Force has recognized the need to move towards evolutionary acquisition approaches. Evolutionary acquisition is the time-based development of our weapon systems. It involves delivery of core system that is then incrementally upgraded to provide the desired and expanded capability. One example is the F-16 and the multistage improvement program. However, the Air Force still stands by its comments to the Draft Section 912c Report "while the Air Force concurs with this in principle, we strongly recommend focusing first on the development of EA doctrine and methodologies prior to adoption of policy advocating its preferred use." Efforts such as Spiral Development are methods to implement evolutionary acquisition approaches. However, many of our programs do not take this approach instead aiming for a full capability at one step.

Prior to the initiation of the Section 912 study, the Air Force started the Evolutionary Acquisition Reinvention Team to evaluate how to best apply evolutionary acquisition approaches to a wide array of weapon systems. This team is currently completing a guide to assist program directors in the development and execution of evolutionary approaches on their programs. Areas of emphasis in the report is in doing the up front planning to ensure that the evolutionary approach and the acquisition plans are properly established, ensuring the operational and logistics support requirements are well defined and planned, and that there is a effective configuration control program. This guide will assist our program managers in the application of evolutionary acquisition approaches. We concur that evolutionary approaches should be the

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preferred method as they are likely to accelerate capability to the warfighter, decrease program risk and instability, and likely lower program costs.

Use of Demonstrations

The Air Force is using technology demonstrations and warfighter experiments in a wide range of projects to prove their application to our warfighters. We are currently demonstrating technologies and their applications through methods such as JEFX, AF Battle Labs, ACTDs, ATDs, Warfare Centers, and the AF TENCAP programs. Demonstrations can speed the development and fielding of new technologies by eliminating the uncertainty as to the military utility and operational applicability of a specific technology. Requiring demonstration of technologies as a prerequisite to entering the acquisition process may on occasion force the Air Force to a two-stage development process that could paradoxically lengthen the development cycle instead of shorten it. It is important to note that the majority of lab-developed technologies transition directly to the industrial base or to warfighters without major field demonstrations. Also, computational modeling and simulation are increasingly reducing the need for major demonstrations for all but the most complex “system-like” technologies.

A major issue associated with technology demonstrations and warfighter experiments is the transition from the demonstration into the acquisition process. Most often transition funding is not available to develop and field the successful demonstrations. SAF/AQX, in support of a Corona tasking, is developing a method to quickly initiate and fund successful technology demonstrations and warfighter experiments. This may include a Warfighter Rapid Acquisition Program (WRAP) type process similar to the Army’s Force XXI Fund. We are also considering other options. Part of this process will be the validation of the mission need, the operational requirements, the concept of operations and the acquisition strategy for a project which are all required to initiate a successful development project. We are using technology demonstrations to evaluate promising technologies and we are establishing processes to ensure that they can be quickly developed and fielded.

Analyzing the Technology Market

This task is aimed at identifying technologies available to DoD from a wide array of sources. Identification of advanced technologies has often not been a problem for the Air Force. The Air Force has a number of programs that are aimed at identifying and developing emerging technologies from many sources. Programs such as corporate IR&D, SBIR, ATDs, and the 6.3 S&T program are all identifying new technologies and evaluating their application to military programs.

Selecting which projects to should incorporate the technology and how to fund the maturation and transition of the known technologies to operational systems is a much larger and more difficult issue. Most of our existing technology development programs suffer from a lack of DEM/VAL and procurement funding. The transition from a technology development program to operational implementation is often referred to as the “Valley of Death” by contractors due to a lack of available funding in 6.4 and beyond. Again the Corona task discussed above is intended to assist in the selection and funding of initiatives resulting from technology development efforts. It however is unlikely to provide all of the necessary funds to transition the ideas and technologies that are currently available.

The technology conference will assist in identifying promising new technologies but will not assist in the more pressing problem of funding the transition of the identified technologies into Air Force systems and programs. The Air Force will support the conference.

Changes to the Requirements Process

The identified changes to the requirements to include both time-based and time-phased requirements are necessary to support evolutionary acquisition approaches and to ensure that the warfighters actual needs are met over time. The changes identified are largely due to Air Force efforts to include them in the Section 912c Requirements and Acquisition Study and to ensure that they were incorporated into the rewrite of the Chairman of the Joint Chiefs of Staff Instruction 3170.01 Requirements Generation Process.

The Air Force championed these changes as a result of the cycle time reduction efforts. In addition to these changes the Air Force has established a Requirements Reinvention Team that was incorporated into the HAF2000 effort. This effort is taking a clean sheet of paper approach to the requirements process to make it more timely and responsive to the needs of the warfighter. The team working the requirements re-engineering is aware of these efforts and is incorporating them in their efforts.